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| Title | [Fully thermal radiation and electric field on magneto-hydrodynamic nanofluid convective mass transfer flow with activation energy](https://pubs.aip.org/aip/adv/article/15/9/095224/3364186) |
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| Published Journal Name | *AIP Advances* |
| Type of Publication |  Full Article |
| Volume | 15 | Issue | 09 |
| Publisher | AIP Publishing |
| Publication Date |  September 22, 2025  |
| ISSN | 2158-3226 |
| DOI | <https://doi.org/10.1063/5.0277801> |
| URL | [Fully thermal radiation and electric field on magneto-hydrodynamic nanofluid convective mass transfer flow with activation energy | AIP Advances | AIP Publishing](https://pubs.aip.org/aip/adv/article/15/9/095224/3364186) |
| Other Related Info. |  |
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| Abstract |  |
| The chemical reaction, viscous dissipation, non-linear thermal radiation, and activation energy on MHD laminar nanofluid flow across a vertical flat plate are considered in our present study. We also considered the uniform electric field ⁠, which is perpendicular to the *xy* plane. By taking suitable similarity functions and variables, Prandtl boundary layer type momentum and energy equations are changed to simultaneous ordinary nonlinear differential equations (ODEs). A numerical solution program for simultaneous ODEs is constructed by bvp5c (explicit finite difference code) in MATLAB software. The numerical results are then displayed graphically with the help of MS Excel in the form of required physical properties (velocity, temperature, and concentration) for considering various parameters. Skin friction ⁠, Nusselt number ⁠, and Sherwood number  are provided in a tabular form, which is our physical interest. Validation of numerical results of the present mathematical model with previously published data is provided in Table I. |